Notebook Series -- Notebooks by Edison and Other Experimenters
Disc Record Book No. 20
Notebook, N-16-11-30

This notebook was used by Edison during the period November 1916-March 1917 for notes on experiments to improve the surface quality of disc records. There are also notes by William W. Dinwiddie, Archie D. Hoffman, and possibly other experimenters. The entries describe a sequence of experiments numbered from 1389E through 1471E. Included are tests of experimental lots of record blanks constructed by different methods or prepared with different ingredients, including rosin, wood flour, various metallic "resonates," china clay, and a white clay provided by Charles Edison. Some tests involve variations in varnish preparations, their method of application, and the molding processes involved in disc record manufacture. Flaws and successful results are both noted. The first entry is dated "Thanksgiving Day—1916 Nov." Several entries indicate that Edison was "deaf today" and temporarily unable to judge test records for surface noise. Some notes are in the form of instructions to Dinwiddie, Hoffman, or other employees. In one entry Edison scolds his two assistants, complaining that "this kind of exptg is d--d poor." The front cover is labeled "Disc Records" and "20"; the back cover is marked "Records & Scratch." The pages are unnumbered. Approximately 120 pages have been used.

Thanksgiving Day – 1916 Nov —

Varnished reg blank Reg 1 Coat Reg
brush reg coat + bake used Reg
Var except Lampblack omitted + 12% Kieselghur substituted, This on drying gave light yellow surface, Surface about like Reg Used a tune discard master turned down –

Same Reg Var Lampblack omitted –
This surface while no louder than Reg was sharper + more hissing than Either Reg or Kieselghur

Same Var but China Clay substituted for Lampblack – This blanked looked black, it was more clotted than even reg Lampblack although China Clay in Var is not clotted,

The surprise of this Varnished was that blank black, also rough surface + yet record is even lower in Volume

(1)

than Either Reg or Kieselguhr and very much softer, This appears to be a very noticeable improvement there was 12% China Clay added of the Varnish (1e) 100 Var 12 Clay
The Viscosity of Var dont seem to increase in either case of Kieselguhr or China Clay - both work well with the brush, + blunt scraping with knife gives long charring - Reg + Kieselguhr dont do it.

Kieselguhr settles out in free mountains + presumably China Clay, although latter cant be seen -

From these Experiments it shows there is a chance to improve the surfaces by finding the right filler - + I will now make a great number using 10 15 + 20% or more filler

Made some Reg Var using Lampblack made on water cooled wheel (rotated) made by Smith there is very black + bulky no cloth made from City gas - mixed it in Chamois Pad

rotating mixed — This is perfectly mixed, Varnished section after blank dried shiny black not grey weather hardened surface like Reg Lampblk but a continuous fine glistening surface no hackles or lumps

This of lampblack is the thing is perfect —

Get bottle Var in Tec chest for use tomorrow at many little cut but tube shake up — & make 6 blanks

1501

Resinate Magnesia blank, small

5 Resinate Mg 12 cc alcohol —

use 20 wood
15 chalk.

This dampens mix ok. + stiff lapathies

Ferrous phosphate very fine smooth, appears to be crystals of mica form leaflets this should be good -

Starch is round transparent particles very fine 1/2/1000 soft to touch -

Zinc phosphate very fine flat leaflet, feels like graphite -

ZnO very fine smooth not leaflets -

NO2 Resinate Magnesia

24 cc Alcohol
10 grms Resinate Magnesia

20 grms wood fibre
15 " Chalk

Think this has too much Resin it lumps in drying some

This presses at 300 lbs equivalent to Reg-Oil & it appears strong -

At 600 lbs on regular press it is very hard & strong tried Cant break it - shows up Much lumps of resin - badly mixed -

#1 at 600 lbs Cant be broken Either,

Manila Copal (pale)

No 3

20 wood
15 chalk

Var 12cc Alcohol
5 grams Copal -

Evidently the Alcohol has not been driven out of the Benzene or Magnesia + it acts better than it would when dried in Vac drier, it may want a little Castor oil to make it less brittle after alcohol all gone, Castor is sol in Alcohol

Took 40 grams Rosin,
Melted it Cooked off water
then added a little at a
time of Carbonate of
Magnesia — gas came
off showing Combination
finally when 1.3/10
one + 3/10th grams —
grammes was in the
Melting point suddenly
rose + the whole went
solid, + dry looking
lumpy — 24 probable
Condensing the alkali

New gum on Market —
African Copal
Nice looking gum clear
Scheel & Co handle 8 cents
lbs plentiful —
Insol Alcohol
on hot plate dont melt
softens to a Tough Rubbery
substance, like old
Zanzibar Copal —

acting Calyfulically - to
change the fusion quality
to a certain Extent
sufficient to raise
its BP tremendously
& condenses just like
Shellac & Linseed
when heated very
hot =
It has no sticky properties
is harder & stronger than
Rosin & is Sol in
Alcohol this is
ok for disc blanks
in place of Shellac

1389 E

Var

175 grams

15 grams Naphthalene

Land Sharp Crackly

NG

1390 E

Var

May be affected by bleaching of ~~[illegible]~~ test.

175 grams –
10 grams Phenol.

Fair surface, but much softer than Reg tried right after same turned darker Meaker –
Surface only 60% in hardness of Reg –
Blank shiny all over like 1381 but wavy hills. considerable areas –
In places globules & drawn together Explaining blank –
Looks is 2nd best of 1381 & promising

1391 =

Acts like Req

1391 E

Hoffman

Enough powder for 50 Blanks — Make only 6 — Varnish Req + permit 1 Keep balance of powder

28½ lbs Powder
21½ lbs Chalk
8 lbs of Resinate Consisting of 12 lbs Rosin 1½ lbs Magnesia Oxide — West ealid

1392E

Dunaddis took a good
working mould put 4 bag
tits around Edges & presented
21. first record was about
regular surfaces with Considerable
Crackets —
21st Records about same condition
say it was very worse
on other surfaces is very round
found only one of the radial
ingrowths with normal Tail
=>

1393 E

Varnish

175 grams

8 grams Chalk

Var 6 pment 1

Not as sharp as Reg

13942

Varnish –

175

8 grms Zinc Oxide

Var 6 pement 1

Like Reg – more cracked

Very bad looking surfaces

1395 E

Varnish —

175 -
10 grams Carb Lead

Var 6 permit 1

About same as Reg

1396E

Varnish

175

6 grams starch

Var 6 percent 1

Settles out just a little

No better than Ray

1397 E

Varnish —

175 grams

8 grams Strontium Oxalate

Settles out a little,

Much softer than Reg — This is PROMISING + blank dull

Very Clotty — Clots if got out might improve it.

(31)

1398 =

I pressed another blank
it had lots Cracks —
found these are due to
white soft opals — also
found lots of small
holes as if pulled out
or lack of varnish to fill —
Trouble is want of
fumes —

1398 E

Varnish

175

8 grams Strontium Fluoride

Vary to permit 1

Settles out very little.

Very soft VERY PROMISING

More than 1397 — 3 times over
no Cut Blank peculiar
note lots of pure white opals
as if on top of a bubble
probably should be fumes —

Whole thing strange

Lots larger numerous

1399 E

Varnish —

175 grains —
8 grains phosphate Copper

Var 6 permit 1

Settles out Var Bad,

A little better than old black
Reg not as good as Reg test
moulded on blanks. Cheap
tests made on —

1400 E

Varnish —

175 grams

8 grams Mag Carbonate

Run 6 percent 1

Mag Carb - settles out of Varnish

~~Blank~~ Shade better Clean and Blank Reg about same as new Blank Reg —

Blank side Pretty good —

Curious — Blank dull grey EVEN matte - no Cloth Varnish apparently all gone in —

1401 E

Yarmouth

175 grams

8 grams Otrantia phosphate

Year 6 — plant 1

family graft — both sides

PROMISING

1402 E

Varnish

175 grains -

8 grains

Ferrocyanide of Zinc

Varnish 6 percent 1

for on music side, very soft + weak surface on blank side —

Blank shows best lots of clots -

PROMISING

1403 E PHENOMENON

Make up powder only

28 ½ Lbs Powder
21 ½ " Chalk
use reg lampblack in blank

Varnish
6 Lbs Rosin
30 lbs Alcohol

Made 8 blanks — using sesame oil on moulds rag wet with it rubbed over & then wiped off —
all OK — Printed the 8
all OK — This shows Rosin OK & no sticking to moulds if sesame used —
good WW Rosin used

1404 E

Var
175
15. very finely
powdered. Reamate of lead
Through 190 mesh
Var 6 percent 1

Dont settle out at all

Run out 6 all right
specs — not good —
surface fair — too much
lead,

Am making a Ocean Leaf

Reinspected 1/29/16.

1 printed OK. 4 Blks OK. 1 Orb Blk.

1405 E Made 12/9/16

Var 175

6 grams finely powdered Resinate of lead through 190 mesh

Var 6 percent 1

Dont attempt out of Var at all

Smoother than Reg. ~~black~~ smooth side soft 3 times over dont Cut. Blank Very shiny continuous Varnish only scattered Cracks Very promising

PROMISING

(47)

1406 E

Varnish

175 grams

15 grams Tungstate of Calcium

Varnish 6 percent 1

1407 E

Varnish

175 grams

8 " Stearate Magnesia

Specs all thin, Varnish awful

Cuts NG

1408 E

Varnish

175 grams

8 " Zinc Oleate

Record full checks - Rough

NG

1409 E

Varnish.

175 grams

15 grams Stearate Calcium

Very Rough - dont fill Cuts — White specs all thru — powder too Coarse NG —

1410 E

Varnish

175 Grams

8 grams Stearate Barium

Record Very full of Checks

Handled 29

1411 E

Varnish –

175 grams –
8 grams Stearate Alumina

Records Cuts – full checks
Very bad handle

1412 E

Hoffman

Make up enough powder
for 10 blanks –

2 wood
1 Cotton
4 Chalk –

Make up the blanks & let me
see them –

CBJ

1413 = Have 77 OK + only
5 Discards - PO near center hole

Hoffman says - Ground wood fabric & flock together before mixing then mixed reg - ground 98% thru 180
Powder seems to tear when struck off by loader - pack good in small press - powder tears on strike off on turn table -
Leaves records good + clean
95.6 OK -

The flock fibres under microscope seem very long -

1413E

Not so good as 1417
surface not as good
Dropped 20 times -
12/11/16

Make 20 Blanks -

2 wood
1 flock
4 Chalk -
1 Lac
+ Experiment to get right thickness of blank - Let me see them -

This makes a beautiful blank very Even fine surface
The flock is the predominant fibre
no sign of a pull out. clean
Sto Tough + think second will be very strong

1414 E

Hoffman is duplicate
with 1000 records
the 1.2 Shellac
Reg +

1415E

Varnish –

175 grams –

8 grams Tungstate Calcium

fired to on big pie plate on my bench –

Record soft – good –

PROMISING –

Blank – no cavities like Reg-Gut its ~~the~~ full of ~~shrinks~~ cracks all about same size –

Should make a lot of Tungstates to get a finer precipitate,

1416 - Hoffman amp
Ground 98% then 180. Pucks light
in moulds, powder tears when
struck off by loader
Pucks form in small pieces
3/8 strike off -
Tears on strike off at turn
table leaves moulds cloudy
but clear -

Has nice surface -

Too thick

Calipers 322 High 313 Low

Weight 600 grns

Will try a smaller Mould

1416E

Not so good as 1417

Hoffman

surface not so
good shows mottle
Dropped 14 times

Make up enough powder
for 10 Blanks

1 Wood Wd
1 flock
5 Chalk
1 Lac

Make up a blank +
show to me

1417 look fine surface fine grain - some wood got in - wets about same as reg perhaps little faster - swells up Cuts tough - apparently plenty of fibers to give toughness

Looks very promising

More Lac would make it better think its too dry

Too Thick -

Calliper 308 high 280 low will try thinner moulds

Weight 551 grms

Printed 11 Every one of the faces of the blank stick to moulds terrible job - No strength to surface must have more Lac also probably more flock -

1417 E - Printed 1 - China Var - no matte very fine surface

This is the right direction to Experiments - surface weak tends to stick to moulds

Hoffman

Came off OK after 10 minutes Cooling - Made 12 drops strong enough

Make up enough powder for 10 Blanks -

1 flock
6 Chalk
1 Lac

make up one blank

Hoffman reports - ground 97%
Then 180
Loads heavy in moulds powder leaks when strike off by loader
Packs from in small press
tears on strike off at turn table
1/4 strike off - less moulds
Cloudy but clear

Resinate of lead ground up moist with alcohol - very fine —
Rubbing on finger as it dried is slightly showing alcohol dissolves some of Excess Resin

It appears to be soluble in hot alcohol but even then opens slow, but when cooled throws most of it off - usual —

This may have something to do with peculiar action on a Varnish —
However it may be it makes particles transparent to certain extent —

Reinspected Jan 29, 1917
Print OK 3 Blks OK

1418 E Made 1/12/13/16

Can of Resinate Lead
Varnish 175 grms Var
to 8 grms Resinate Lead

This is for Varnishing
1412 1413.

1418 Sent up a small bottle to Varnish 6 percent ovi — This was Filtered through one thickness linen — some left on used Vara filter small cap it closed up had to do it in 2 doses this works OK can use say 10 Resinate allowing 2 for loss getting 8.

The Big lot of 1418 will not be filtered —

1419

I varnished 3/4 of a Reg
blank with boiled linseed oil
let it stand for 5 days
The unvarnished part took
water in Twice as quick
as varnished part.
Some places 3 Times faster
where it happened more
linseed oil —

This May be Useful

Dec 12/16

Charles Edison gave me a sample of a hard lumpy white Clay? found in unlimited quantities owned by a friend of his—

Put in water it swells up to a transparent jelly. its fineness is unlimited not attacked by HCl—

Has specs in it possibly comfort and speed very fine— This Clay? only strange— its the finest for fence looks and acts like butter—

POSSIBLY USEFUL

773

1420 F

Print 1. from the lead-face blank
filled linen, with Otto B.
Nickel plated —

One side came free but the
other side (nickel) didn't
probably because nickel
peeled produced wrinkles
as you saw in mine —
Noticed Vacuum equalized
well in one place

1421 E

Take this 1418 blank +
Varnish it again with
1418 Varnish —
print on ~~E~~ P Otto
Nickel plated mould

1422 E

Record OK mechanically

This has a more quiet sound than 1423

5 ft Drop broke 3rd drop

Varnish (Req) looks better than on Req blank — etc

Even but of Course Clotty

Print stuck to mould but got it off — Cracked ~~but~~ in 2 or 3 places

(0)

but surface is good, some cracks

While surface is very good, have heard with this Varnish + ~~least~~ mould ~~about~~ just as good with Req blank

This blank fails as surface of blank not coherent enough to permit printing

Hoffman Report (ground) 97% fine thru 100 — Random increase bars on strike off.
Screens need mould clean — 6 made 100%.

1422E

Hoffman says never be able to screen it or use Newage screens as it would cut all the flock out,

Thinks wont need screen use it direct from Mill.

Hoffman

Make Enough powder for 30 blanks (about) 6 Chalk

1 flock 1.2 of Rosin

There should be 5 of alcohol to 1 Rosin — use scoame on mould

Make up 6 blanks —

Print one on a rejected working mould

Req ↓ as

possibly 1½ or 1.3/4 Rosin would cure it,

1423 E

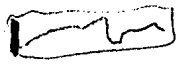
Record OK mechanically — of course its a descend ~~[illegible]~~ 4 full snaps well now have good mold used + print consider —

Not so quick quick as 1422 E

5 ft drop - broke 11th drop -

Varnish looks better than on Rej — of course its Cloty — 12 printed 100%

PO - 1 side 1
PO both 2

1 Varnish PO
1 
1

Cuts soft, dont seem to be Enough Rosin

1423 E

flock seems to be balled up even in the powder - 97% fine — 6 made 100% leaves mounted clean, does same wand

Hoffman

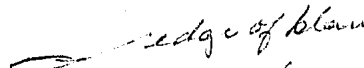
Make powder for about 30 blanks.

1½ flock 5½ Chalk
1.2 Rosin —

1 of Rosin to 5 of blackhole
No sesame —

Make 6 blanks - print one on a Descend mounted Rej Vor

1424 E



Pair of Moulds with ridge raised around edge to prevent injury from blanket —
Ridge about .020 high inside —
116 prints made 84-11 Dec. 16 - gave 77 %
O.K.

Note - tested a large number of chemicals to coat molds to prevent Rosin attaching -

following are OK

Paraffine Oil
Sesame "
Olive "
Albany grease
Monochlorophenol

Paraffine preferable as can get it pure -

1425 E

Make up dozen Rosin blank - 1380 E

Using Paraffine Oil on the molds -

Varnish 12 print them all on Reg Molds & send to Edison

12 Printed Printed % 100

Inspected =

" One fine crack radial to mission
PO Label on both sides 3
PO " one side 4
The only trouble with 12

1426 E 12/15/16

Dup of 1425

Except Varnish with
the Special Varnish
from Frodott.
1418

Proofing 100%
Inspection

Reinspected Jan 29/1917.
Print OK.

[91]

Inspected Jan 29, 1917
4 Printed all discards
2 Venus pull Outs on label.
1 Venus ok on label
1 Cracked Blank.

1427E 12/16/1916

Make up 12 of the 1380 Rosin blank, using Sesame —

Varnish 6 & print 3 on the new 12d moulds - the original & the last tests moulds —

8 Blanks made 6 ok 2 discards 1 of which Pull Out 1 mechanical sesame

Eileen - The surface is just as soft on Reg Varnish on pred oils Varnish — There is Extremely good soft surface —

probably be very little complaint
Except on very quiet records
I noticed that one time had
such quiet tracking all I could
do to hear coherence the opposite
tracking was very noticeable
There were 2 or 3 mechanical
defects – Var pulled ~~that~~ out
Edge probably due to ring
+ a Crack there

Worth keeper Rosin mix req. 4 fabric
3 wash + this Varnish
I think would be satisfactory
if working mould surface
is OK

PHENOMENON

1428 F

Dup of 1427

Except Varnish 6 with
Fred Otto's Var 1418 F
+ Prevent all the last
moulds on them

8 blanks made 2 Pull outs
6 OK – resume

Paraffine oil probably works
better

The surfaces on these
records are very good
+ about satisfactory
if equally good ones could be got
on clothing moulds there would

1429 The Okonite show slight
Pullouts —

1429E

Hoffman make
30 or 40 blanks —
3 Wood 4 Chalk
1.2 Rosin —
4 of alcohol to 1 of Rosin
use ~~[illegible]~~ paraffine oil
& Report when ready
& 4/0

Dont mould good clean
to mould — blanks Cracked
94% fine — 4 times then Well —
7/8 mould rough strike off & bottom
places 3/16 strike off
12 made 1 pull out 6 Cracked
5 OK 41.6%

1430 E

Hoffman Make a dozen blanks or more

1½ flock
5½ Chalk
2¼ Rosin —

Alcohol 4 times the amount of Rosin — Parafine Oil —

Send 6 up stairs to Varnished Reg. one painted on the card mould —
Keep the other 6

Notice — Too thicky when not in fuller mill
abandoned Expand

1431 E

Drop Test

1 3 times –
1 4 "
1 4 "
1 2 "

Too thick – wants
Reg Size + .7 Rosin –

One time Turned down mandrel
is very very soft & weak spot
& perfectly concentric
the other side is hard
always – its not the
blank –

1431 E

Blanks are too
Hoffman thick – wants
7/8 mould

Make few blanks –
like 1380 E except make
the fibre 3 & the chalk
4 –

Varnish & print one
on test mould –

Hoffman Report – ground 3 times
to get 97% thru 180 – Paraffine oil
used on platens; Loads good
strike off clean leaves moulds
slightly frosted but clean –
6 made all OK
Printed 6 – 1 blank cracked
2 PO on labels others OK –

CWJ

Drop test

1	20 – broke then –
2	3
3	3
4	8

1 was cracked up above in pouring

Think could make this OK by Experimenting

Kucher said Records stick hard to moulds

guess 4 wood 3 chalk .6 Rosin is what use must stick to —

1432 E

Hoffman

Make some blanks

3 wood 4 Chalk 8/10th of Rosin – 4 use a 7/8 mould, – 4 alcohol to 1 Rosin

Make 6 ~~[illegible]~~

Print all on Reg Moulds

Hoffman Report Moulds coated Vaseline – wiped of lightly with clean rag & hardened rag – Moulds nice pieces from 7/8 mould

Calliper 204 223 214 – 208 – 1/8 shrink off – no tear on shrink off

Lenox moulds clean – but frosted in opal

5 OK one Cracked –

1380E Rosin .6 - percent

had a second in oven at

125° Fahr 3 hours —

one side developed a

Rout — Otherwise ok

but I imagine poorer

Outfacing — Otherwise

Record OK no warp or

alteration of appearance

1433 E

Hoffman –

Make a few blanks –
All fabric no chalk
use 7 fabric 1 lace

Send up stairs 6,
Navarrah 6 – print 1
on test manual

Deaf today – test when
ears are OK.

Tried it again – stuck fast to Mould

1434 B

2 Blanks – with Rubber dope thinned by Benzol rubbed over dried –
to be varnished one the Dope side + not on the other – Print Varnished side on test mould + unvarnished side on a Discarded mould

The first attempt, Venser all pull off blank + mould stuck – This cant promising

More on it will be necessary to use almost undiluted dope in any Event its PROMISING if it doesn't scratch,

1435 E

One side of 2 blanks Varnished with 1/2 thinned down film dope Cooper dried - Varnish Dopeside + print on test moved print unvarnished side on a discarded moved

This works OK. Surface seems good Eye inspection all OK — except 020 pull out near label -
This Dope can probably be put on much thicker I put it on very roughly by hand, to get,

C110

1436 E

Kurcher — Reg

Take 6 blanks Varnish wether
Varnish having no Lamp black —
Dont bake just dry Couple hours
then Varnish again with.
1384 E Varnish made by Fred Ott,
Send for it Tuesday

Cant test Deaf now — Save —
will print 3 more & save on
Var blank.

Miller Aug. They have very
quiet surface. It dont
seem so to me while I am
deaf — There is in first
one printed 4 swaps 2 on a
side both Varnish defects
fine pull outs — There is
bad —

1437 E

2 blanks coated
thick Cooper film dope 1 side -
One of these is to be
Varnished Reg & printed
on one side — with test mound

The other is to be printed
direct without Varnishing
on a discard mound

The one printed direct on the
dope is no better probably
louder than the side
with nothing on -

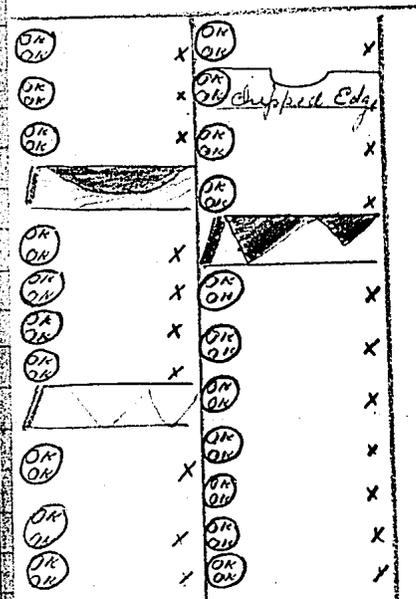
The other with Varnish over
Listen when not Deaf
Miller says Gene Sure good

1438E.

This is discard mould
with ring around Edge
010 & 3 tits 40/1000
looks good —
Make some good moulds
with this on & run reg
Running Every 12th &
note defects & % of
all —

1439-E

1/13/15



83% 91%

83% 83%

1439-E

Make 1 Wraps one all Dupont wood Hardt Blades regular way. Gas & finish regular way

2 Blades to be printed on Mfr. Edisons Test Master Hardt delivers 2 round to Miami Beach

[1197]

1440-E

OK OK	x
OK OK	Conv - 3
OK OK	Conv - 3
OK OK	x
OK OK	Conv - 3
OK OK	x
OK OK	Conv - 1 - 2 - 3
OK OK	Conv - 3
OK OK	Conv - 3
	poice lighting
OK OK	Conv - 3

83%

25%

1440-E

Make Round of Handles on highly polish [illegible] Gad [illegible] regular [illegible] Print 1 on [illegible] Polish [illegible] Hone, divide all to [illegible] Round. Bldg 4

Moulds good, leave Moulds clean

C125

1/25/16

OK	x
OK	x
OK	x
OK	x
OK	x
OK	x
OK	x
OK	x
OK	x
OK	x
OK	x
OK	x
OK	x

100%

100%

1441-E Dup. of 1440-E

Only difference is Mouth have been washed with 1% Solution

Van & print repeat on

Print 1 round & send to

Bldg #4

1442 E

Varnished with NC magnetic.
made by Kaffman & filtered by
Edison in small Vacuum filter
filtered too slow & filtered out
too much stuff — should say
1/3 filtered out. Very shiny & good
& blank mat with clean edges —

Will print the 6 made,

1443-E

Varnish & bake

Regular way 6 blanks,

send to Millis to show

Mr Edison

1444-E Varnish with Lead Arsenate supposed to have been used on previous experiment 1351-E

Var & Bake 6 Blanks regular way print 1 on Spun test Mould send to Bldg #4 for Mr Edison.

1445-E

Resonate of lead free from Resin. Put through fine grinding paint mill with alcohol. then Alcohol filtered off on Two filters Resonate not allowed to dry. filtered O.K. through two thickness of linen Varnish & Bake 6 Blanks Regular way Print 1 on Special Test Mould. send to Bldg & for Mr. Edison

1446-E

Resonator of Lead free from resin that had been cleaned. Re-wet with alcohol then filled to get rid of alcohol - cake not allowed to dry. Then put in mortar with a little Carbon to work up the cake - filled OK.

Varnish & Bake & Bleach

Regular way, print 1 and Special Test Mould send to Bldg 4 for Mr Edison

1447-E

Made Resonate of lead washed on filter with water then partly washed with Alcohol on filter then give one wash in [illegible] to extract resin filtered & Alcohol then took 10 g- ground in mortar with a little Varnish to work out lumps then put in Rig under run 1 hr. filter OK.

Varnish & Bake 6 Hours regular way print 1 on Special Test Mold for Mr Edison send to Bldg 4

1448-E Duplicate of 1447-E

Except two treatments with Alcohol to extract resins. (No. 1447 & 1448 to much change for water also to much Alcohol required.

Varnish & Bake 6 Blanks regular way print 1 on Special list Mailed for Mr. Edison send to Bldg 4

1449-E Special Printing Schedule.

4/10/17

98.7% OK got 1308
92.9% on blanks.

Put on shelf Monday 2/19/17
for time test 10 days

But from this one would infer Chino Varnish was a Bad failure — It may be
But
This kind of Exptq is d—d poor
one lot of moulds were good
the other lot poor rate
to ascertain anything both
should have been prepared
with same moulds about same time

1450-E.

Mr. Hoffman:

Please make one drier full of powder in which 1/10 of the shellac is replaced by Resin.

Blanks are to go thru special and record kept of discards

12 prints to go to Miller to be marked on labels permanently and put away to see if they deteriorate.

2 prints for hot and cold test.

Put 12 on top of Cupboard also good
Smith is [illegible]

Chino Var

The surfaces a very bad

Run oils also —

E

The other lot with Regular Varnish was good surface —

C40

1.) 210 - 201 - .009
2.) 202 - 197 - .005
3.) 209 - 199 - .010
4.) 215 - 203 - .012
5.) 197 - 190 - .007
6.) 194 - 197 - .007
7.) 202 - 188 - .014
8.) 211 - 207 - .004
9.) 209 - 206 - .003
10.) 224 - 214 - .010
11.) 202 - 198 - .004
12.) 221 - 211 - .010
13.) 201 - 184 - .017
14.) 198 - 182 - .006
15.) 214 - 197 - .017
16.) 205 - 194 - .011
17.) 199 - 169 - .030
18.) 217 - 204 - .013
19.) 206 - 198 - .008
20.) 198 - 191 - .007
21.) 207 - 196 - .011
22.) 218 - 210 - .008
23.) 195 - 185 - .010
24.) 210 - 191 - .019
25.) 209 - 204 - .005
26.) 220 - 209 - .011
27.) 219 - 210 - .009
28.) 195 - 188 - .007
29.) 210 - 187 - .023
30.) 210 - 204 - .006
31.) 206 - 200 - .006

1451-E

Make some blocks everything reg. except, use Spk sample of Dupont wood instead of Norway-wood.

This Experiment is for Calipers Measurements on Records.

1452-E Duplicate of 1448-E except filtered through 1 thickness of linen

Now take 6 Regular Hay Print 1 on Special Mount for Mr Edison send to Bldg 4

1453-E

Made with resin extracted from Resonate of lead which has given good results - this resin contains some lead

6 grams resin
175 " " Varnish

Varnish & bake 6 blanks regular way.

print 1 on Special Test Mould for Mr Edison
Send to Bldg 4

1454-E

Made with using extracts
from lately made Resinate of lead
6 grams Resin
175 " Turpentine

Dissolve & Bake 5 Hours Regulos
way
Profit 1 on Liquid Test Mortar
for Mr Edison
Lead to Bldg 4

1455-E

Resonate of lead made with
40 g Na OH at 20 Be
40 g Resin + lead Nitrate sol.
Hard filtering had to change linen twice

Van & Babe 6 blanks regular way.

Print 1 on Spiral Test Month for Mr. Edisen
Send to Bldg 4

1456-E

Resonate of Lead

40 g. Na OH at 20 Be

80 g Resin & Nitrate of Lead Sol.

Hard filtering Resonate of Lead not all dissolved

Van & Bake 6 Bl. required scum

Print 1 on Special Test Mould for Mr Edison

Send to Bldg 4

1457-E

Resonate of Lead made into
40 g Na OH at 20 Be
30 g. Resin & Nitrate of Lead Sol
Hard to filter had to change liners

Van & Bake 6 Blks repulped Tray

Print 1 on Special Test Mondel file
- Mr Edison
Send to Bldg 4

1458-E

Resonate of lead made with
40 g Na. OH at 20 Be
25 g Nitro + lead Nitrate Solution
Hand filtering

Vary Bake 6 Bibs regulated away

Print 1 and Send Test Mixed for
Mr Edison
Send to Bldg 4

1459-E

Resonate of Lead made with
40 g Na. OH at 20 Be
200 g Resin & Lead Nitrate Solution
Hard filtering

New Batch 6 Blds regular way

Proof 1 and Special Test Made
for Mr. Edison
Send to Bldg 4

1460-E Mar 2-17

One drier full of powder in which 5% of the Shellac is replaced by Resin
Blanks to go thru special and record to be kept of discards

12 prints to go to Miller to be marked on labels permanently and put away to see if they deteriorate.
5 prints for hot and cold test,
5/2/17
92 + % Retest of 9.79 Records.

1461-F Nally's #14

5 grams Resinate of Lead 175 grams of Varnish with and Coarse Linen [illegible]

5 grams Resinate Lead
to 175 grams Varnish
filtered thru 1 thickness
fine linen & Coarse pulp
on fine linen Can filter
faster —

Will start using
this Varnish
March 14/1917

1462 F Dally's Resonate of Lead #33

5 grams Resonate of Lead 175 grams of

Vern. Very brittle - Hard to pulve

1463·F Duf of 1462 except 10 Ounces
of Resonate of Lead to 125 grains of Tessuit
& Hard to fitts

1464-E Dwgs. of Lamp No. 1 Bracket
of Lead. H. B. and Light Stand.

C171]

1465-F

9 grams Resorcit of Lead
175 grams of Varnish without
Camp Black Iron Bolting hard filtering

1466-E Dup of 1461-E

Exact amount in bag, bate 53 lbs.

Resinate of lead.

1468-E

1 Dryer of Pegulao Pondo
with 10% of fine grained blanks.

No difference in surface -
from pairs 1468-E and replacement
prints from same metallic kept

9/9/13

92.5% OK out of 545 Rounds

C179J

1469-E

one diver Regular powder
with 20% of fine ground blanks.

8 parts new
2 parts regrounds.

83.9% okay of 490 Recvd 3/13/17

March 13-17

1470-E about same as 1380-E Book 19

One drier full

40 lbs wood fibre
30 lbs chalk
10 lbs 6 oz Water White Rosins
3½ lbs alcohol -
½ qt. amt lamp black

use parafine oil on mould and wipe dry.

Keep acc. of percent of alt tern.
Make lacker test
Send 1½ pints to Miller in Building (4)

C1433

1470-E about same as 1380-E Book 19

One drier full

40 lbs wood fibre
30 lbs chalk
10 lbs 6 oz water white resin.
36 lbs alcohol -
reg. amt lamp black

Use paraffine oil on moulds and wipe dry.

Keep acc of percent oil, all thru.
Make sugar test.
Send 12 prints to Miller in Building (4)

1470-E

Moulds washed with tanning solution. Blanks raised 1/16 in above mould ring. 1/4 in strike off bar moulds above Moulds 1261 Schedule.

1624 Moulds.

27 Pull Out

1397 OK 98.3%.

97.1% OK out 1400 Records

87.7% OK on blanks

1470-E

57 lbs wood fibre -
43 lbs chalk -
2 lbs lamp black -
{12 lbs rosin.
{50 lbs alcohol -

See 1380 E Original 54 lbs alcohol

One drier full -

Use Paraffine oil on moulds and wipe dry

Keep acc. of per cent OK. all them make wear test.

Send 12 prints to Miller in Building (4)

Mould & Print Regular - but make 24 blanks on [redacted] 1261 schedule and keep separate.

Drop test

1 — 10 times
2 — 5 " "
3 — 2 " "
4 — 5 " "
5 — 18 " "
6 — 5 " "
45 times

1471-F Dup of 1461-F Graph
made in a large Section Paper's
Resume of Lead # 14

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